
NuSTEC Publications WG

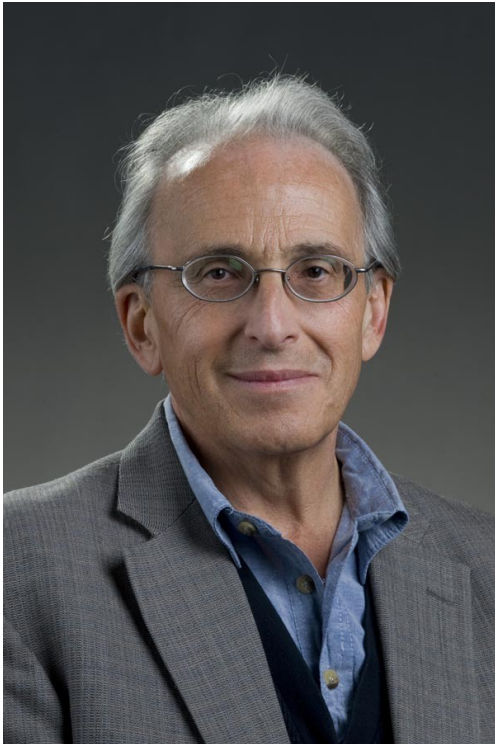
Andy Furmanski, Jorge Morfin, Kajetan Niewczas

NuSTEC annual board meeting

13th December 2023



Group Conveners



Jorge Morfin



Andy Furmanski



Kajetan Niewczas



Group Charge

- The group “oversees the preparation and publication of NuSTEC papers and documents”
- This is a broad definition
- But right now, we have a singular focus...



NuSTEC “white paper”

- Update to 2017 white paper
 - We are now avoiding the term “white paper” in favour of “review”
 - We see the “Tensions” papers as intermediate steps between these two
- Intention *was* to be timely with the US P5 report in October
 - P5 report was 2 months late, so are we
- Intention is to make statements about challenges, and priorities
 - Lack of priorities in previous paper is a common complaint
 - Lack of neutrino scattering mention in P5 report is a driver to give our own priorities



Paper Writing Leads

- Section leads identified:
 - Pionless – Andy Furmanski
 - RES – Mino Kabirnezhad
 - SIS/DIS – Sajjad Athar
 - Coherent – Luis Alvarez-Ruso
 - FSI – Steve Dytman
 - Nuclear initial state – Kajetan Niewczas
 - Flux – Jon Paley
 - Oscillations – Clarence Wret
 - Electron scattering – Adi Ashkenazi
 - Generators – Steven Gardiner
- Experimental overview editor: Jorge Morfin
- Theoretical overview editor: Kajetan Niewczas

Leads were empowered to recruit small teams of authors for each section

Most are being written by 2-4 people from across the community



Paper Status

- Bi-weekly meetings for the last ~4 months
 - Section leads attend and give reports
 - **Last meeting of 2023 will be this Friday at 10:30am CT**
- Past initial target (October), but good progress is being made
- Paper is now **75 pages** long
 - We are about to start an internal review
 - Each section authors will review another section
 - Intention is to ensure paper is *balanced* before fine-tuning each section



Section review readiness

- Impact on Oscillations Almost ready
- Nuclear Model Progress
- Flux Almost ready
- Generators Almost ready
- FSI Almost ready
- QE Ready
- Resonances Ready
- SIS/DIS Ready
- Strange Particle Progress
- Coherent Almost ready

Most sections either ready or nearly ready

Small push needed, and then internal review can begin



Priorities/P5 response

- Important that this paper highlight priorities
 - These can be updated/modified based on the P5 report now it's available
- e.g. P5 report calls for DUNE ND upgrade
 - Primary purpose is reducing interaction uncertainties
 - But this requires substantial theory improvements to match the experimental improvements
 - And those are needed soon, so the detector design can be optimised
- There is space for ideas/discussion here
 - Speak now, email us, arrange a time to chat, etc



Paper timeline

- Initial plan was “shortly after P5 report”
 - That meant, end of the year (now)
- P5 report was delayed, giving us breathing room
- Hope is to have a solid draft by the end of January, with publication some time in February
 - *Lots of work is needed for that to happen!*



More

- A single nuSTEC review paper is taking most of our time
- But, if others want to pursue nuSTEC publications, let us know – we will coordinate!

